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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/635,956

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Timothy C. Loose

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EXAMINER

COBURN, CORBETT B

ART UNIT

PAPER NUMBER

3714

DATE MAILED: 12/20/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/635,956

Applicant(s)

LOOSE, TIMOTHY C.

Examiner

Corbett B. Coburn

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Claims 1-5 & 7-28 rejected under 35 U.S.C. 103(a) as obvious over McGlone et al. (US Patent Number 6,394,900)

Claims 1, 9, 20: McGlone teaches a slot machine with a central processing unit (422) for operating the slot machine in response to a wager. There is a reel mechanism including a motor (38) a symbol bearing reel (32) and a reel driver (402). The motor has a rotatable shaft upon which the reel is mounted. (Fig 1c) The reel driver includes a local microcontroller (612) distinct from and serially coupled to the CPU. (Fig 6) The reel driver is coupled to the motor to cause the motor to rotate the reel. (Abstract) The reel driver performs low-level reel driver operations independent from the CPU. (Fig 8) The CPU issues high-level commands to the to the reel driver related to the rotation of the reel. (Abstract) McGlone also teaches that the master gaming controller includes a memory storing software for device drivers for at least some of the slot reel peripherals. (Col 3, 35-41) These device drivers are configuration data and are sent to the local microprocessor for configuring it to a reel spinning game conducted with a slot machine.

Furthermore, McGlone teaches that, "The peripheral controller may have a non-volatile memory arranged to store configuration parameters specific to the slot reel peripheral and state history information of the slot reel peripheral. In one embodiment, the non-volatile memory might be used to store the configuration parameters needed to

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drive the slot reel using the drive mechanism including a moment of inertia of the slot reel, the size of the slot reel and one or more acceleration parameters.” (Col 3, 17-24)

The suggestion that the peripheral (i.e., local) controller may have non-volatile memory for storing configuration data provides a strong suggestion that the opposite may also be true. If the peripheral controller does not have non-volatile memory for storing configuration data, that data must be loaded to the peripheral controller from the central procession unit. Doing this would eliminate unnecessary duplication of parts because the data could be stored in one set of non-volatile memory instead of on non-volatile memory associated with each peripheral controller. This would reduce the cost of the gaming machine. It would have been obvious to one of ordinary skill in the art at the time of the invention to have the central processing unit send configuration data to the local microcontroller for configuring the microcontroller to a reel spinning game conducted with a slot machine in order to eliminated unnecessary duplication of parts, thus reducing costs.

Claim 2: Slot machines inherently stop the symbols in visual association with one or more paylines.

Claim 3: The low-level reel driver operations include monitoring the reel and at least partially controlling its position. (Abstract)

Claims 4, 11: The local microcontroller monitors the reel by sampling its state multiple times per second in real time and responds with control commands for controlling the position of the reel. (Col 8, 45-57)

Claim 5: The local microcontroller is serially connected to the CPU via a Universal Serial Bus. (Col 2, 44-48)

Claims 7, 10: The CPU issues high-level commands to the local microcontroller. The high-level commands include a start reel command for starting the reel and a stop reel command for stopping the reel. (Col 7, 25-33, Col 8, 28-32)

Claim 8, 13: The reel includes an encoder (barcode) for indicating the position of the reel. The reel driver includes a barcode reader (408) that is coupled to the microcontroller so that the microcontroller may monitor the position of the reel. (Col 8, 45-57)

Claim 12: Claim 12 is merely a restatement of claims 1, 4, and 7, which see *above*.

Claims 14, 16, 18, 21: McGlone teaches that the configuration data includes "parameters needed to drive the slot reel using the drive mechanism, including the moment of inertia of the slot reel, the size of the slot reel and one or more acceleration parameters." (Col 3, 21-24)

Claims 15, 17, 19, 22, 26, 27: As noted above, McGlone suggests transmission of configuration data by the CPU to the local microcontroller and processing of that data by the local microprocessor. McGlone also teaches communication between the local microcontroller and the CPU. (Col 3, 32-33) While McGlone fails to specifically teach communication of the status of configuration from the local processor to the CPU, it would be obvious to do so. If the local controller were misconfigured, errors could occur in the game. These errors could result in players winning when they should not win and losing when they should not lose. Neither of these conditions is acceptable to a casino.

For example, if the configuration data were for the wrong type of position decoder, it would be impossible to determine which symbols appear along a payline. It would have been obvious to one of ordinary skill in the art at the time of the invention to have communicated of the status of configuration from the local processor to the CPU and to have compared the configuration data with the determined type of position encoder in order to prevent the game machine from operating in a misconfigured condition that would lead to errors in the game.

Claim 23: McGlone teaches providing a physical symbol-bearing reel (Fig 1b) including an encoder (410) for indicating the position of the reel. (Col 1, 43-44) McGlone teaches providing a reel controller for performing low-level operations related to the movement of the reel. (Fig 8) There is also a CPU for issuing high-level commands to the reel controller related to the movement of the reels. (Abstract) McGlone also teaches that the microcontroller that operates the reels must have the parameters and operation features of the position sensor in order to operate the reels. (Col 1, 42-48, Col 2, 66 – Col 3, 4) The peripheral controller receives device drivers for operating some of the peripherals from the CPU. (Col 3, 34-41) This would include the position encoder since the position encoder is necessary for the operation the slot machine. In order to determine which of the various device drivers to download, it would be necessary for the reel controller to determine the type of encoder present and to report it to the CPU. It would have been obvious to one of ordinary skill in the art at the time of the invention to have the CPU send a command to the reel controller to determine the type of position encoder present in order to download the correct device drivers to the reel controller.

Claim 24: McGlone teaches encoders with one or more flags (i.e., tabs). (Col 8, 52-54)

Thus the type of the encoder is based on the number of flags on the encoder.

Claim 25: As pointed out in connection with claim 23 above, in order to download the correct device driver, it is necessary to determine the type of encoder being used.

Claim 26: As pointed out in connection with claim 24 above, there are different types of position encoders. The number of flags or tabs on the encoder determines the type of the encoder. As pointed out in connection with claim 23, the machine must determine the type of encoder present in order to correctly configure the device by downloading the correct device drivers. The easiest way to determine the type of encoder present would be to cause the motor to spin and count the number of flags on the encoder. Thus it would have been obvious to one of ordinary skill in the art at the time of the invention to have caused the motor to spin the reel and detect the physical characteristics (i.e., the number of flags) of the encoder in order to determine which type of encoder was present, thus enabling the loading of the correct device driver.

3. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over McGlone in view of Heidel et al. (US Patent Number 5,102,136)

Claim 6: McGlone teaches a slot machine with a central processing unit (422) for operating the slot machine in response to a wager. There is a reel mechanism including a motor (38) a symbol bearing reel (32) and a reel driver (402). The motor has a rotatable shaft upon which the reel is mounted. (Fig 1c) The reel driver includes a local microcontroller (612) distinct from and serially coupled to the CPU. (Fig 6) The reel driver is coupled to the motor to cause the motor to rotate the reel. (Abstract) The reel

driver performs low-level reel driver operations independent from the CPU. (Fig 8) The CPU issues high-level commands to the to the reel driver related to the rotation of the reel. (Abstract) McGlone also teaches that the master gaming controller includes a memory storing software for device drivers for at least some of the slot reel peripherals. (Col 3, 35-41) These device drivers are configuration data and are sent to the local microprocessor for configuring it to a reel spinning game conducted with a slot machine. McGlone does not, however, specifically teach that the reel driver includes a printed circuit board to which the microcontroller is mounted. The use of printed circuit boards is so well known as to be notorious. McGlone specifically teaches that electrical components are usually mounted on printed circuit boards. (Col 2, 10-14) Printed circuit boards provide a stable physical substrate upon which circuit components may be mounted. Heidel teaches a reel controller circuit board (84) that is oriented generally perpendicular to the axis of rotation of the reel. Mounting the reel controller circuit board generally perpendicular to the axis of rotation of the reel allows the assembly to be compact. It would have been obvious to one of ordinary skill in the art at the time of the invention to have mounted the microcontroller on a printed circuit board that is mounted generally perpendicularly to the axis of rotation of the reel in order to provide a stable physical substrate for the electrical components with a compact configuration.

4. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over McGlone in view of Sakamoto (US Patent Number 6,315,663).

Claim 29: McGlone teaches providing a physical symbol-bearing reel (Fig 1b) including an encoder (410) for indicating the position of the reel. (Col 1, 43-44) McGlone teaches

providing a reel controller for performing low-level operations related to the movement of the reel. (Fig 8) There is also a CPU for issuing high-level commands to the reel controller related to the movement of the reels. (Abstract) McGlone teaches that the reel controller has "configuration parameters needed to drive the slot machine using the drive mechanism including a moment of inertia, the size of the slot reel and one or more acceleration parameters." (Col 3, 21-24) But McGlone does not teach an acceleration or deceleration profile for accelerating or decelerating the reel. Sakamoto teaches an acceleration or deceleration profile for accelerating or decelerating the reel. (Col 12, 40-61) Having the reels accelerate and decelerate at varying speeds add visual interest to the slot machine game. It would have been obvious to one of ordinary skill in the art at the time of the invention to have the CPU send high-level commands concerning acceleration or deceleration profile for accelerating or decelerating the reel to the reel controller in order to add visual interest to the slot machine game.

Response to Arguments

5. Applicant's arguments with respect to claims 1-13 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

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MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Corbett B. Coburn whose telephone number is (703) 305-3319. The examiner can normally be reached on 8-5:30, Monday-Friday, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Hughes can be reached on (703) 308-1806. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9302 for regular communications and (703) 872-9303 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1148.



cbc

December 16, 2002



**JESSICA HARRISON
PRIMARY EXAMINER**